



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET. N.E.
ATLANTA, GEORGIA 30365

MAR 0 ? 1994

4WD-SSRB

MEMORANDUM

SUBJECT: Northwest 58th Street Landfill
Five-Year Review

FROM: Douglas F. Mundrick, Chief
South Superfund Remedial Branch

TO: Joseph R. Franzmathes, Director
Waste Management Division

THRU: Richard D. Green, Associate Director
Office of Superfund and Emergency Response

Attached please find a copy of the Five-Year Review Final Report for the Northwest 58th Street Landfill in Dade County, Florida. Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, requires that if a remedial action is taken that results in any hazardous substances, pollutants, or contaminants remaining at the site, the Environmental Protection Agency (EPA) shall review such remedial action no less often than each five years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

According to the Consent Decree (CD) which was approved and entered on January 20, 1989, Dade County was required to close the landfill in accordance with the technical requirements of the applicable state regulations and the relevant and appropriate EPA guidance document ("Covers for Uncontrolled Hazardous Waste Sites"). The county was also required to provide municipal water to an area of private well users east of the landfill. Longterm monitoring of ground water quality and Operation and Maintenance (O&M) after completion of the Remedial Action is also required.

The approved remedial actions began in July, 1988, with the award of the contract for extension of the municipal water supply to private well users adjacent to the site. In November, 1988, construction of a leachate collection/interceptor trench along the east side of the east Municipal Solid Waste (MSW) mound (i.e., Zone 1) began. By March, 1991, the contract for construction of the landfill closure system was awarded. The

project was scheduled for completion in October 1992; however, delays created when Hurricane Andrew struck the Florida coast in August, 1992, moved the final remedial action completion date to June 17, 1994.

The attached Five-Year Review Final Report, dated January 1994, has been peer reviewed by Region IV and Headquarters staff. The attached report documents the current conditions at the site, states that the remedy continues to be protective of human health and the environment, and makes recommendations regarding completion of the remedial action and regarding future site reviews.

Based on the site visits and interviews conducted during the review, the remedial action, when complete, should meet the requirements of the Record of Decision (ROD). EPA will ensure that the site remains protective by conducting Five-Year Reviews in the future. The next review will be conducted within 5 years of approval of this Five-Year Review Report.

Attachment

Approved by: Richard D. Green, Deputy Date: 2 MAR 94
Joseph R. Franzmathes, Director
Waste Management Division
EPA Region IV



FIVE-YEAR REVIEW

NORTHWEST 58TH STREET LANDFILL SITE

DADE COUNTY, FLORIDA

PREPARED BY

U. S. ENVIRONMENTAL PROTECTION AGENCY

REGION IV

ATLANTA, GEORGIA

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LIST OF ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
COE	U.S. Army Corps of Engineers
DERM	Department of Environmental Regulation and Management
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FWS	United States Fish and Wildlife Service
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OSWER	Office of Solid Waste and Emergency Response
O&F	Operational and Functional
O&M	Operation and Maintenance
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act

1. BACKGROUND

1.1 Introduction

This report documents the five-year review conducted in 1993 for the Northwest 58th Street Landfill NPL site, located in Dade County, Florida. The U.S. Environmental Protection Agency's (EPA's) Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-02, provides that a five-year "Statutory Review" is to be conducted for a response action at any site at which a post-SARA remedy, upon attainment of the Record Of Decision (ROD) cleanup levels, will not allow unlimited use and unrestricted exposure. Statutory five-year reviews are required no less often than each five years after the initiation of the remedial action. The five-year review is intended to evaluate whether the response action remains protective of public health and the environment.

1.2 Site Location and Description

The Northwest 58th Street Landfill is a one square mile site in Northwest Dade County, Florida near the western perimeters of the Town of Medley and the City of Miami Springs (Figure 1). The site is bordered by industrial areas to the south and east. There is a rock pit operation to the north, and undeveloped land and a Resource Recovery Plant to the west of the site.

The site is located in an area where the groundwater table is two to three feet below the ground surface. The land in the area of the landfill is flat and at an altitude of five feet above sea level. Along the eastern edge of the landfill is a loaf-shaped mound 80 to 90 feet high which covers an area of approximately 90 acres. In the middle of the site is a mound which is 50 to 60 feet high, and covers approximately 62 acres.

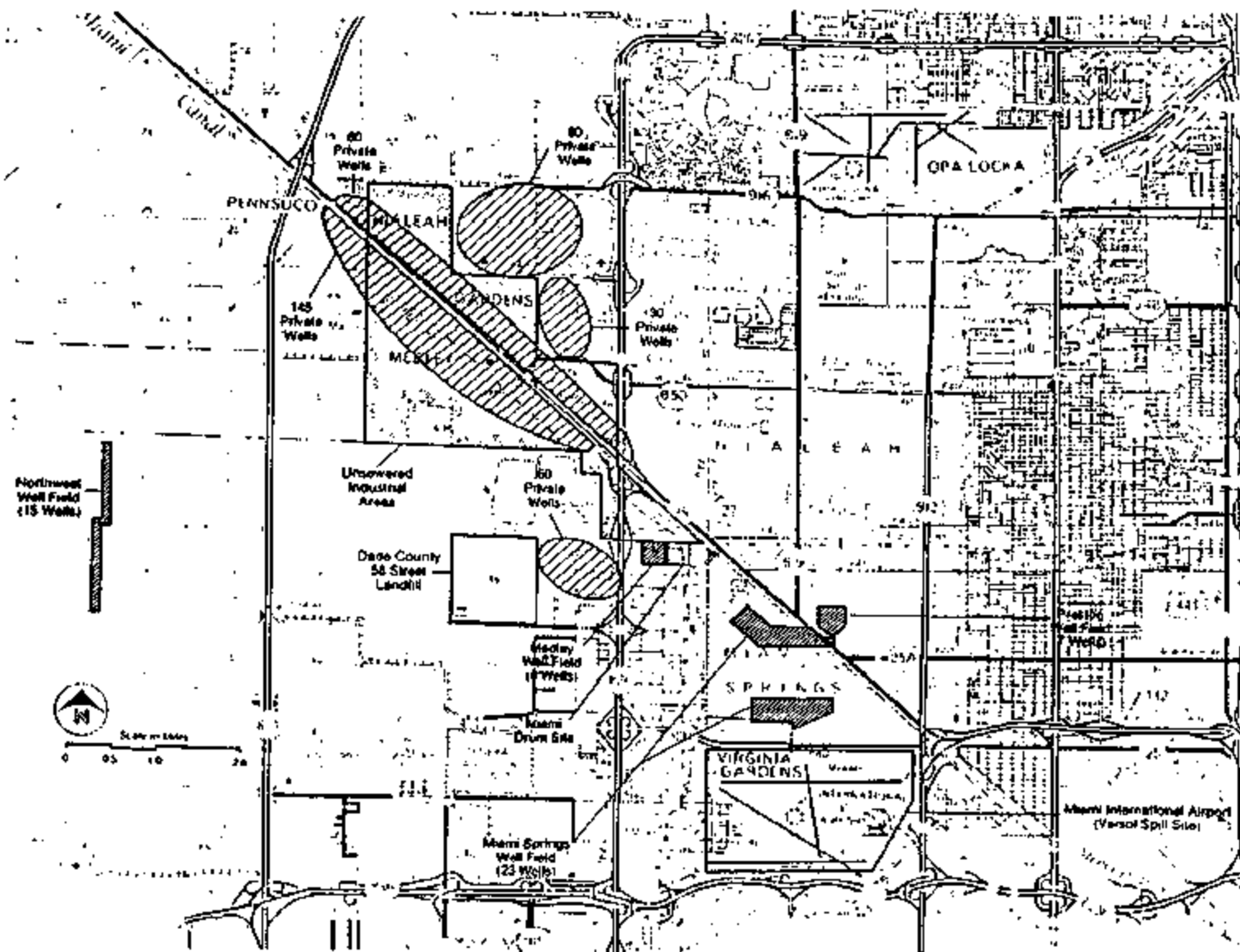
The Biscayne Aquifer lies under the site and is the sole source of drinking water for Dade County, Florida. Several wellfields are located close to the site. Two public water source wellfields (Preston and Miami Springs), as well as, 60 private wells used for commercial purposes, are located within 2.5 miles east of the site. One public water source wellfield is located approximately four miles west of the site. Several private wells are within the City limits to the north of the site. Ground water normally flows to the east in this region; however, selective pumping of wellfields has caused changes in the localized gradients.

1.3 Site History

The site began operation as an open dump in 1952. Shallow trenches were dug for waste disposal, resulting in deposition of refuse in the saturated zone of the Biscayne Aquifer. In addition, open burning of waste for volume reduction was practiced until it was banned in 1960. The landfill received an estimated 60,000 tons of waste in 1952. The annual volume of waste increased until the landfill was receiving over one million tons of waste each year in the 1980's.

In June 1979, Dade County and the Florida Department of Environmental Regulation, FDER (now called Florida Department of Environmental Protection, FDEP), entered into a Consent Order which required the county to cease accepting waste at the Northwest 58th Street Landfill by August 1, 1981. However, Dade County continued to operate the landfill until October 1982. Since then the landfill has received only construction debris, quarry wastes, and water plant sludges; no municipal waste has been received.

Figure 1: Vicinity Map



The Biscayne Aquifer Superfund Study was initiated by EPA in 1982 to determine the effect of three NPL sites on the Biscayne Aquifer: (1) Varsol Spill Site; (2) Miami Drum Site; and (3) Northwest 58th Street Landfill. Three Records of Decision (RODs) were approved as a result of the Biscayne Aquifer Study. On September 13 1982, a ROD was signed to address source control at the Miami Drum Site. On September 16, 1985, a ROD was signed to address the poor ground water quality in the study area, due in part to contamination from all three of the sites. On September 21, 1987, a ROD was signed by the EPA for remediation of the Northwest 58th Street Landfill NPL Site in Dade County, Florida.

On April 26, 1988, the County signed a Consent Decree with EPA, to implement the remedial actions identified in the ROD signed September 21, 1987, as set forth in the Remedial Design/Remedial Action Work Plan.

1.4 Remedial Objectives

The remedy selected for the Northwest 58th Street Landfill was as follows:

- Close the landfill in accordance with the technical requirements of the applicable state regulation (FAC Chapter 17-7 (1985)), and the relevant and appropriate EPA guidance document (Covers for Uncontrolled Hazardous Waste Sites, EPA/540/2-85/002). The EPA Document provided the specific methods for evaluation of the cover design.
- Provide municipal water to an area of private well users east of the landfill.

The closure included leachate control through a combination of grading, drainage control, and capping. This minimized the infiltration of stormwater into the landfill, thus controlling the leachate produced from the landfill. Gas migration and odor controls were also implemented. Long term monitoring of groundwater quality and O&M of the closure is also required."

The remedial action taken at the Northwest 58th Street Landfill site in Miami, Dade County, Florida, as a result of the 1987 ROD includes three remedial action starts. The first remedial action began on July 15, 1988, with the award of the contract for extension of the municipal water supply to private well users adjacent to the site, and was complete on December 20, 1988. The second remedial action began on November 22, 1988, with construction of a leachate collection/interceptor trench along the east side of the east municipal solid waste (MSW) mound (i.e., Zone 1), and was complete on March 31, 1989. The third remedial action began on March 31, 1991, with the award of the contract for construction of the landfill closure system, and is ongoing due to delays created when hurricane Andrew struck the Florida coast in August 1992. The projected completion date for the third remedial action is June 17, 1994.

1.5 ARARs Review

The applicable or relevant and appropriate requirements (ARARs) under which the Northwest 58th Street Landfill closure system was designed are summarized below. During a review of these ARARs, EPA did not identify any changes in the standards above which would challenge the protectiveness of the remedy selected.

	<u>Requirement</u>	<u>Substance</u>
1.	Chapter 17-7 FAC (1985)	Resource Recovery and Management
2.	Chapter 17-4 FAC	Permits
3.	Chapter 17-3 FAC	Water Quality Standards
4.	Chapter 17-25 FAC	Stormwater Discharge
5.	Chapter 17-28 FAC	Underground Injection Control
6.	Chapter 40E-4, Rules of the South Florida Water Management District	Stormwater Controls
7.	Chapter 40E-3, Rules of the South Florida Water Management District	Monitoring Well Design and Construction
8.	Section 24-11, Metropolitan Dade County Code	Ground Water Standards
9.	Section 24-58, Metropolitan Dade County Code	Permitting
10.	Solid Waste Disposal Act	Landfill Closure
11.	Resource Conservation and Recovery Act - Subtitle D	Nonhazardous Landfill Closure
12.	Clean Water Act	Water Quality
13.	Safe Drinking Water Act	Drinking Water Quality
14.	Clean Air Act	Air Emissions Control
15.	National Oil and Hazardous Substances Pollution Contingency Plan (NCP)	Remedy Evaluation/Selection

2. SITE CONDITIONS

2.1 Summary of Site Visits

On September 22, 1993 and December 15, 1993, Pamela Scully, of the Environmental Protection Agency, visited the Northwest 58th Street Landfill. The purpose of these site visits were to evaluate components of the remediation with respect to the Consent Decree and Decision Documents.

In September, Ms. Scully reviewed site photos and documentation relative to the first and second remedial actions initiated at the site (i.e., provisions to supply public water to areas east of the landfill and construction of a leachate collection trench near the east mound).

The following is a summary of EPA's observations made during the site visits with references to photographs which are included as Appendix A of this report.

- Closure activities were delayed for at least six months due to contract negotiations between Dade County and their contractor. Minimal grading was ongoing during the September visit (Photograph A-1). By December, most of the grading was complete, storm water management structures were being constructed, and the synthetic cover system was being placed on the east mound known as zone 1 (Photograph A-2).
- There is an area of melaleuca trees in the north central portion of the site. Previous herbicide treatment has killed many of the trees in the central portion of the stand of trees, but there are still trees thriving along the perimeter of the area (Photograph A-3).
- There were new melaleuca trees observed growing in the wetland area at the northeast corner of the Site.
- Leachate seeps were observed along the western edge of the east mound in Zone 1 (Photographs A-4 through A-7).
- The fence surrounding the facility is complete along the north, east and west boundaries of the site; there is no fence along the southern boundary.

2.2 Summary of Interviews

Mr. Joe Lurix, of the Florida Department of Environmental Protection (FDEP) in West Palm Beach, was contacted concerning closure of the landfill on December 14, 1993. Mr. Lurix indicated that the closure was progressing well, but indicated some concern that ammonia concentrations were elevated in monitoring wells north of the site. Mr. Lurix believes that the leachate collection trench should be extended across the northern portion of the site in order to capture as much leachate and ammonia as possible. Mr. Lurix also expressed concern that several monitoring wells, which are part of the monitoring plan submitted with the closure documents, have been decommissioned during construction.

Ms. Iraida Calil, of Dade Environmental Resource Management (DERM), was contacted concerning closure of the landfill on September 22, 1993 and December 28, 1993. Ms. Calil is satisfied with the closure of the landfill, and feels that Dade County will be able to meet the schedule. Ms. Calil was not aware of any concerns that FDEP had relative to ammonia releases at the site or monitoring well decommissioning.


Mr. German Hernandez, of Metropolitan Dade County Department of Solid Waste Management, was contacted on December 28, 1993, and asked about the closure and the concerns expressed by Mr. Lurix. Mr. Hernandez stated that the County hoped that completion of the closure system would eliminate the leachate seeps and that the County plans to monitor the facility after closure before determining if additional leachate collection trenches are required. Mr. Hernandez said that several monitoring wells have been decommissioned during construction and will have to be reinstalled. Mr. Hernandez agreed to send EPA a copy of the monitoring plan that was submitted as part of the closure permit and to identify which monitoring wells need to be reconstructed.

2.3 Areas of Non-Compliance

The Closure System has not yet been completed in accordance with the applicable state regulation (FAC Chapter 17-7). The current schedule for completion of the Closure System is provided in Figure 2.

Row #	Task Name	Duration	Start	End	1994								
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
1	Contract negotiations MDC/Brand	74.00 d	Apr/01/93	Jul/13/93									
2	New Contract Approval	1.00 d	Jul/27/93	Jul/27/93									
3	Contract Delivered by MDC	1.00 d	Aug/05/93	Aug/08/93									
4	Brand Contract Execution	9.00 d	Aug/06/93	Aug/18/93									
5	Notice to Proceed	1.00 d	Sep/24/93	Sep/24/93									
6	Remobilize Personnel / Equip	10.00 d	Sep/01/93	Sep/15/93									
7	Damage Assessment	1.00 d	Sep/30/93	Sep/30/93									
8	Clean Debris & Replace Geo-fabric	26.00 d	Oct/01/93	Nov/05/93									
9	12" Sand Layer Repair	28.00 d	Nov/01/93	Dec/10/93									
10	PVC Installation	9.00 d	Dec/07/93	Dec/17/93									
11	Gas Vent Installation	10.00 d	Feb/07/94	Feb/18/94									
12	18" Sand Layer	66.00 d	Dec/20/93	Mar/14/94									
13	South Phase Rem. Exst. PVC Liner	4.00 d	Nov/09/93	Nov/12/93									
14	Compaction Testing/Survey	56.00 d	Dec/06/93	Feb/28/94									
15	Topsoil & Solid Sod	34.00 d	Feb/22/94	Apr/08/94									
16	Topsoil & Checker Board Sod	50.00 d	Apr/11/94	Jun/17/94									
17	Clearing & Grubbing	14.00 d	Aug/27/93	Sep/16/93									
18	Site Regrade	14.00 d	Sep/16/93	Oct/05/93									
19	Calcium Carbonate Notice to Proceed	1.00 d	Oct/20/93	Oct/20/93									
20	Site Prep Alex. On Plant	22.00 d	Oct/21/93	Nov/19/93									
21	Haul Calcium Carbonate, Alex. Orr	71.00 d	Nov/29/93	Mar/14/94									
22	Site Prep NW Wellfield	22.00 d	Jan/17/94	Feb/15/94									
23	Haul Calcium Carbonate, NW Wellfield	71.00 d	Feb/16/94	May/25/94									
24	Topsoil for Seed & Mulch	66.00 d	Feb/14/94	Jun/15/94									
25	Rendon Basin Regrade & Survey	15.00 d	Oct/11/93	Oct/29/93									
26	Rendon Basin Limerock Cover	72.00 d	Oct/13/93	Jan/31/94									
27	Seeding & Mulching	80.00 d	Feb/28/94	Jun/17/94									
28	Misc. Rip-Rap	100.00 d	Jan/31/94	Jun/17/94									
29	Fire Wells	20.00 d	Feb/07/94	Mar/04/94									
30	Settling Basins	30.00 d	Apr/28/94	Jun/08/94									
31	Relocate County Trailer	3.00 d	Jun/20/94	Jun/22/94									
32	Demobilization	14.00 d	Jun/20/94	Jul/07/94									
33	Groundcover Maintenance	84.00 d	Jun/20/94	Oct/14/94									

N.W. 58th Street Landfill Closure

Figure 2: 

Project Schedule

3. RECOMMENDATIONS

3.1 Technology Recommendations

Containment remains the most appropriate technology for municipal landfills. No hot spots have been revealed during the closure process that would require removal action. Municipal water was supplied to private wells users adjacent to the site in 1988. The leachate collection trench has operated since January 1990, with occasional downtime due to construction interferences at the site. The closure system is scheduled for completion in 1994.

The county should address the issue raised by FDEP regarding additional leachate collection trenches.

3.2 Requirements for Recommendation Implementation

Complete closure in accordance with the requirements of Closure Permit SF 13-175312, granted by the State of Florida. Monitoring wells removed during construction should be replaced prior to completion of the closure system, since adherence to the monitoring plan is a condition of the permit. Dade County should develop a corrective action plan regarding the leachate collection trench. The corrective action plan should be submitted to the state and used to determine when corrective action regarding the leachate collection trenches is required (i.e., extending the trench).

3.3 Statement on Protectiveness

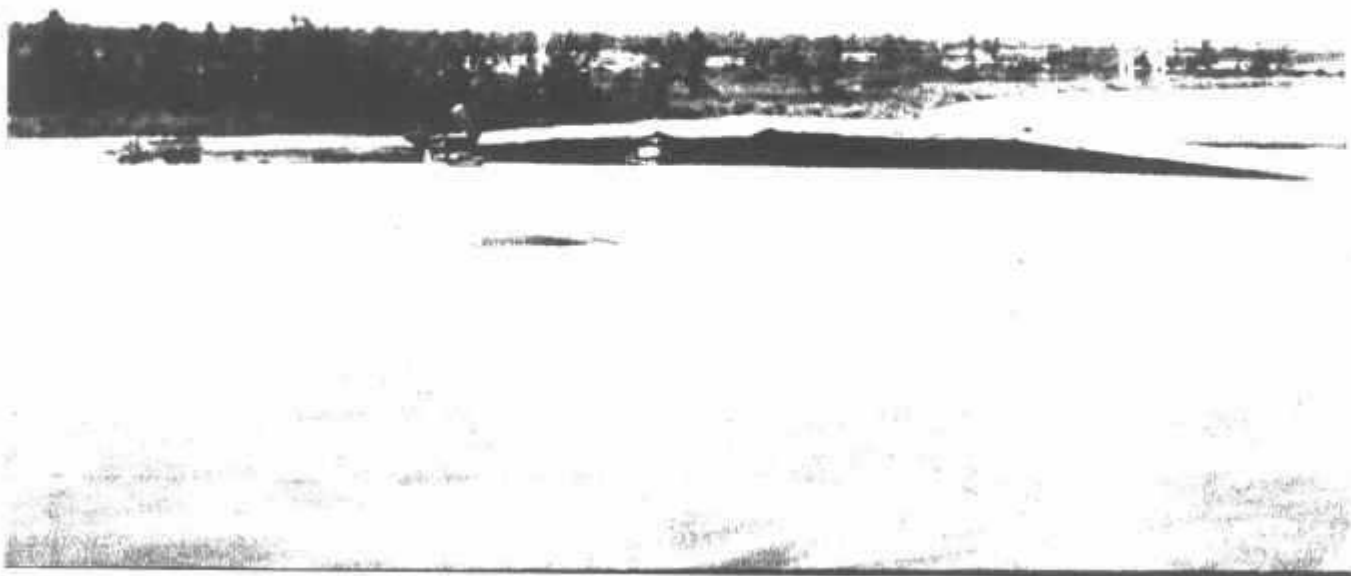
The selected remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective.

3.4 Next Review

Another five-year review should be conducted by November 22, 1998. The most important aspect will be the visual inspection to assess the structural integrity of the closure system. Interviews with project and operation and maintenance personnel should be performed. Sampling should not be required. Ground water monitoring data and leachate volume and quality data should be available from Dade County and FDEP during the five-year review.

APPENDIX A

PHOTOGRAPHS



Photograph A-1 : Minimal grading was ongoing south of Zone 1 during September.



Photograph A-2 : PVC cover was in place on top of Zone 1 in December.



Photograph A-3 : Melaleuca trees several months after herbicide treatment.



Photograph A-4 : Leachate seeps along west side of Zone 1.



Photograph A-5 : Leachate seeps along west side of Zone 1.



Photograph A-6 : Leachate seeps along west side of Zone 1



Photograph A-7 : Leachate seeps along west side of Zone 1.